WHAT IS CLAIMED IS:

1. A method of preventing or treating an autoimmune disease, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

2. The method of claim 1, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

3. The method of claim 1, wherein said peptide is a synthetic peptide.

4. The method of claim 1, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

5. A method of preventing or treating a viral disease, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

6. The method of claim 5, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

7. The method of claim 5, wherein said peptide is a synthetic peptide.

8. The method of claim 5, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

9. A method of preventing viral infection, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

10. The method of claim 9, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

11. The method of claim 9, wherein said peptide is a synthetic peptide.

12. The method of claim 9, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

13. A method of inducing hematopoiesis, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

14. The method of claim 13, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

15. The method of claim 13, wherein said peptide is a synthetic peptide.

16. The method of claim 13, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

17. A method of inducing hematopoietic stem cells proliferation, the method comprising administering to a subject in need thereof a

therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

18. The method of claim 17, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

19. The method of claim 17, wherein said peptide is a synthetic peptide.

20. The method of claim 17, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

21. A method of inducing hematopoietic stem cells proliferation and differentiation, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

22. The method of claim 21, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

23. The method of claim 21, wherein said peptide is a synthetic peptide.

24. The method of claim 21, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

25. A method of inducing megakaryocytopoiesis, the method comprising administering to a subject in need thereof a therapeutically

effective amount of a peptide derived from an N terminus portion of oS1 casein.

26. The method of claim 25, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

27. The method of claim 25, wherein said peptide is a synthetic peptide.

28. The method of claim 25, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

29. A method of inducing erythropoiesis, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

30. The method of claim 29, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

31. The method of claim 29, wherein said peptide is a synthetic peptide.

32. The method of claim 29, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

33. A method of inducing leukocytopoiesis, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

34. The method of claim 33, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

35. The method of claim 33, wherein said peptide is a synthetic peptide.

36. The method of claim 33, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

37. A method of inducing thrombocytopoiesis, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

38. The method of claim 37, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

39. The method of claim 37, wherein said peptide is a synthetic peptide.

40. The method of claim 37, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

41. A method of inducing plasma cell proliferation, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

42. The method of claim 41, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

43. The method of claim 41, wherein said peptide is a synthetic peptide.

44. The method of claim 41, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

45. A method of inducing dendritic cell proliferation, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

46. The method of claim 45, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

47. The method of claim 45, wherein said peptide is a synthetic peptide.

48. The method of claim 45, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

49. A method of inducing macrophage proliferation, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

50. The method of claim 49, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

51. The method of claim 49, wherein said peptide is a synthetic peptide.

52. The method of claim 49, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

53. A method of preventing or treating thrombocytopenia, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

54. The method of claim 53, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

55. The method of claim 53, wherein said peptide is a synthetic peptide.

56. The method of claim 53, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

57. A method of preventing or treating pancytopenia, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

58. The method of claim 57, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

59. The method of claim 57, wherein said peptide is a synthetic peptide.

60. The method of claim 57, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

61. A method of preventing or treating granulocytopenia, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

62. The method of claim 61, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

63. The method of claim 61, wherein said peptide is a synthetic peptide.

64. The method of claim 61, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

65. A method of preventing or treating hyperlipidemia, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

66. The method of claim 65, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

67. The method of claim 65, wherein said peptide is a synthetic peptide.

68. The method of claim 65, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

69. A method of preventing or treating cholesteremia, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

70. The method of claim 69, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

71. The method of claim 69, wherein said peptide is a synthetic peptide.

72. The method of claim 69, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

73. A method of preventing or treating glucosuria, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

74. The method of claim 73, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

75. The method of claim 73, wherein said peptide is a synthetic peptide.

76. The method of claim 73, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

77. A method of preventing or treating diabetes, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

78. The method of claim 77, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

79. The method of claim 77, wherein said peptide is a synthetic peptide.

80. The method of claim 77, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

81. A method of preventing or treating AIDS, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

82. The method of claim 81, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

83. The method of claim 81, wherein said peptide is a synthetic peptide.

84. The method of claim 81, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

85. A method of preventing or treating infection by HIV, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

86. The method of claim 85, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

87. The method of claim 85, wherein said peptide is a synthetic peptide.

88. The method of claim 85, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

89. A method of preventing or treating conditions associated with myeloablative doses of chemoradiotherapy supported by autologous bone marrow or peripheral blood stem cell transplantation (ASCT) or allogeneic bone marrow transplantation (BMT), the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of αS1 casein.

90. The method of claim 89, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

91. The method of claim 89, wherein said peptide is a synthetic peptide.

92. The method of claim 89, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

93. A method of treating a thrombopoietin treatable condition, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

94. The method of claim 93, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

95. The method of claim 93, wherein said peptide is a synthetic peptide.

96. The method of claim 93, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

97. A method of augmenting the effect of thrombopoietin, the method comprising administering to a subject in need thereof a therapeutically effective amount of a peptide derived from an N terminus portion of oS1 casein.

98. The method of claim 97, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

99. The method of claim 97, wherein said peptide is a synthetic peptide.

100. The method of claim 1, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

101. A method of enhancing peripheral stem cell mobilization, the method comprising administering to a subject in need thereof an effective amount of a pharmaceutical composition comprising effective amounts of thrombopoietin and a peptide derived from an N terminus portion of α S1 casein.

102. The method of claim 101, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

103. The method of claim 101, wherein said peptide is a synthetic peptide.

104. The method of claim 101, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

105. A pharmaceutical composition for preventing or treating an autoimmune disease, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

106. The pharmaceutical composition of claim 105, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

107. The pharmaceutical composition of claim 105, wherein said peptide is a synthetic peptide.

108. The pharmaceutical composition of claim 105, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

109. A pharmaceutical composition for preventing or treating a viral disease, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

110. The pharmaceutical composition of claim 109, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

111. The pharmaceutical composition of claim 109, wherein said peptide is a synthetic peptide.

112. The pharmaceutical composition of claim 109, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

113. A pharmaceutical composition for preventing viral infection, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

114. The pharmaceutical composition of claim 113, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

115. The pharmaceutical composition of claim 113, wherein said peptide is a synthetic peptide.

116. The pharmaceutical composition of claim 113, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

117. A pharmaceutical composition for inducing hematopoiesis, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

118. The pharmaceutical composition of claim 117, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

119. The pharmaceutical composition of claim 117, wherein said peptide is a synthetic peptide.

120. The pharmaceutical composition of claim 117, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

121. A pharmaceutical composition for inducing hematopoietic stem cells proliferation, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

122. The pharmaceutical composition of claim 121, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

123. The pharmaceutical composition of claim 121, wherein said peptide is a synthetic peptide.

124. The pharmaceutical composition of claim 121, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

125. A pharmaceutical composition for inducing hematopoietic stem cells proliferation and differentiation, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

126. The pharmaceutical composition of claim 125, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

127. The pharmaceutical composition of claim 125, wherein said peptide is a synthetic peptide.

128. The pharmaceutical composition of claim 125, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

129. A pharmaceutical composition for inducing megakaryocytopoiesis, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

130. The pharmaceutical composition of claim 129, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

131. The pharmaceutical composition of claim 129, wherein said peptide is a synthetic peptide.

132. The pharmaceutical composition of claim 129, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

133. A pharmaceutical composition for inducing erythropoiesis, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

134. The pharmaceutical composition of claim 133, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

135. The pharmaceutical composition of claim 133, wherein said peptide is a synthetic peptide.

136. The pharmaceutical composition of claim 133, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

137. A pharmaceutical composition for inducing leukocytopoiesis, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

138. The pharmaceutical composition of claim 137, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

139. The pharmaceutical composition of claim 137, wherein said peptide is a synthetic peptide.

140. The pharmaceutical composition of claim 137, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

141. A pharmaceutical composition for inducing thrombocytopoiesis, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

142. The pharmaceutical composition of claim 141, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

143. The pharmaceutical composition of claim 141, wherein said peptide is a synthetic peptide.

144. The pharmaceutical composition of claim 141, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

145. A pharmaceutical composition for inducing plasma cell proliferation, the pharmaceutical composition comprising, as an active ingredient a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

146. The pharmaceutical composition of claim 145, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

147. The pharmaceutical composition of claim 145, wherein said peptide is a synthetic peptide.

148. The pharmaceutical composition of claim 1, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

149. A pharmaceutical composition for inducing dendritic cell proliferation, the pharmaceutical composition comprising, as an active ingredient a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

150. The pharmaceutical composition of claim 149, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

151. The pharmaceutical composition of claim 149, wherein said peptide is a synthetic peptide.

152. The pharmaceutical composition of claim 149, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

153. A pharmaceutical composition for inducing macrophage proliferation, the pharmaceutical composition comprising a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

154. The pharmaceutical composition of claim 153, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

155. The pharmaceutical composition of claim 153, wherein said peptide is a synthetic peptide.

156. The pharmaceutical composition of claim 153, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

157. A pharmaceutical composition for preventing or treating thrombocytopenia, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

158. The pharmaceutical composition of claim 157, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

159. The pharmaceutical composition of claim 157, wherein said peptide is a synthetic peptide.

160. The pharmaceutical composition of claim 157, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

161. A pharmaceutical composition for preventing or treating pancytopenia, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

162. The pharmaceutical composition of claim 161, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

163. The pharmaceutical composition of claim 161, wherein said peptide is a synthetic peptide.

164. The pharmaceutical composition of claim 161, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

165. A pharmaceutical composition for preventing or treating granulocytopenia, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

166. The pharmaceutical composition of claim 165, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

167. The pharmaceutical composition of claim 165, wherein said peptide is a synthetic peptide.

168. The pharmaceutical composition of claim 165, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

169. A pharmaceutical composition for preventing or treating hyperlipidemia, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

170. The pharmaceutical composition of claim 169, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

171. The pharmaceutical composition of claim 169, wherein said peptide is a synthetic peptide.

172. The pharmaceutical composition of claim 169, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

173. A pharmaceutical composition for preventing or treating cholesteremia, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

174. The pharmaceutical composition of claim 173, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

175. The pharmaceutical composition of claim 173, wherein said peptide is a synthetic peptide.

176. The pharmaceutical composition of claim 173, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

177. A pharmaceutical composition for preventing or treating glucosuria, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

178. The pharmaceutical composition of claim 177, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

179. The pharmaceutical composition of claim 177, wherein said peptide is a synthetic peptide.

180. The pharmaceutical composition of claim 177, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

181. A pharmaceutical composition for preventing or treating diabetes, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

182. The pharmaceutical composition of claim 181, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

183. The pharmaceutical composition of claim 181, wherein said peptide is a synthetic peptide.

184. The pharmaceutical composition of claim 181, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

185. A pharmaceutical composition for preventing or treating AIDS, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

186. The pharmaceutical composition of claim 185, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

187. The pharmaceutical composition of claim 185, wherein said peptide is a synthetic peptide.

188. The pharmaceutical composition of claim 185, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

189. A pharmaceutical composition for preventing or treating infection by HIV, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

190. The pharmaceutical composition of claim 189, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

191. The pharmaceutical composition of claim 189, wherein said peptide is a synthetic peptide.

192. The pharmaceutical composition of claim 189, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

193. A pharmaceutical composition for preventing or treating conditions associated with myeloablative doses of chemoradiotherapy supported by autologous bone marrow or peripheral blood stem cell transplantation (ASCT) or allogeneic bone marrow transplantation (BMT), the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

194. The pharmaceutical composition of claim 193, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

195. The pharmaceutical composition of claim 193, wherein said peptide is a synthetic peptide.

196. The pharmaceutical composition of claim 193, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

197. A pharmaceutical composition for treating a thrombopoietin treatable condition, the pharmaceutical composition comprising, as an active ingredient a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

198. The pharmaceutical composition of claim 197, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

199. The pharmaceutical composition of claim 197, wherein said peptide is a synthetic peptide.

200. The pharmaceutical composition of claim 197, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

201. A pharmaceutical composition for augmenting the effect of thrombopoietin, the pharmaceutical composition comprising, as an active ingredient a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

202. The pharmaceutical composition of claim 201, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

203. The pharmaceutical composition of claim 201, wherein said peptide is a synthetic peptide.

204. The pharmaceutical composition of claim 201, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

205. A pharmaceutical composition for enhancing peripheral stem cell mobilization, the pharmaceutical composition comprising, as active ingredients thrombopoietin and a peptide derived from an N terminus portion of α S1 casein and a pharmaceutically acceptable carrier.

206. The pharmaceutical composition of claim 205, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

207. The pharmaceutical composition of claim 205, wherein said peptide is a synthetic peptide.

208. The pharmaceutical composition of claim 205, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

209. A pharmaceutical composition for inducing hematopoiesis, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

210. The pharmaceutical composition of claim 209, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

211. The pharmaceutical composition of claim 209, wherein said peptide is a synthetic peptide.

212. The pharmaceutical composition of claim 209, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

213. A pharmaceutical composition for inducing hematopoietic stem cells proliferation, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

214. The pharmaceutical composition of claim 213, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

215. The pharmaceutical composition of claim 213, wherein said peptide is a synthetic peptide.

216. The pharmaceutical composition of claim 213, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

217. A pharmaceutical composition for inducing hematopoietic stem cells proliferation and differentiation, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

218. The pharmaceutical composition of claim 217, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

219. The pharmaceutical composition of claim 217, wherein said peptide is a synthetic peptide.

220. The pharmaceutical composition of claim 217, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

221. A pharmaceutical composition for inducing megakaryocytopoiesis, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

222. The pharmaceutical composition of claim 221, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

223. The pharmaceutical composition of claim 221, wherein said peptide is a synthetic peptide.

224. The pharmaceutical composition of claim 221, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

225. A pharmaceutical composition for inducing erythropoiesis, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

226. The pharmaceutical composition of claim 225, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

227. The pharmaceutical composition of claim 225, wherein said peptide is a synthetic peptide.

228. The pharmaceutical composition of claim 225, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

229. A pharmaceutical composition for inducing leukocytopoiesis, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

230. The pharmaceutical composition of claim 229, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

231. The pharmaceutical composition of claim 229, wherein said peptide is a synthetic peptide.

232. The pharmaceutical composition of claim 229, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

233. A pharmaceutical composition for inducing thrombocytopoiesis, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

234. The pharmaceutical composition of claim 233, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

235. The pharmaceutical composition of claim 233, wherein said peptide is a synthetic peptide.

236. The pharmaceutical composition of claim 233, wherein said peptide has a sequence as set forth in one of SEQ ID NOs:1-25.

237. A pharmaceutical composition for preventing or treating thrombocytopenia, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

238. The pharmaceutical composition of claim 237, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

239. The pharmaceutical composition of claim 237, wherein said peptide is a synthetic peptide.

240. The pharmaceutical composition of claim 237, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

241. A pharmaceutical composition for preventing or treating pancytopenia, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of αS1 casein and a pharmaceutically acceptable carrier.

242. The pharmaceutical composition of claim 241, wherein said peptide is a fragment derived by fragmentation of αS1 casein.

243. The pharmaceutical composition of claim 241, wherein said peptide is a synthetic peptide.

244. The pharmaceutical composition of claim 241, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

245. A pharmaceutical composition for preventing or treating granulocytopenia, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

246. The pharmaceutical composition of claim 245, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

247. The pharmaceutical composition of claim 245, wherein said peptide is a synthetic peptide.

248. The pharmaceutical composition of claim 245, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

249. A pharmaceutical composition for treating or preventing an indication selected from the group consisting of autoimmune disease or condition, viral disease, viral infection, hematological disease, hematological deficiencies, thrombocytopenia, pancytopenia, granulocytopenia, hyperlipidemia, hypercholesterolemia, glucosuria, hyperglycemia, diabetes, AIDS, HIV-1, helper T-cell disorders, dendrite cell deficiencies, macrophage deficiencies, hematopoietic stem cell disorders including platelet, lymphocyte, plasma cell and neutrophil disorders, pre-leukemic conditions, leukemic conditions, immune system disorders resulting from chemotherapy or radiation therapy, human immune system disorders resulting from treatment of diseases of immune deficiency and bacterial infections, the pharmaceutical composition comprising, as an active ingredient, a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

250. The pharmaceutical composition of claim 249, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

251. The pharmaceutical composition of claim 249, wherein said peptide is a synthetic peptide.

252. The pharmaceutical composition of claim 249, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

253. A pharmaceutical composition for treating or preventing an indication selected from the group consisting of hematological disease, hematological deficiencies, thrombocytopenia, pancytopenia, granulocytopenia, dendrite cell deficiencies, macrophage deficiencies, hematopoietic stem cell disorders including platelet, lymphocyte, plasma cell and neutrophil disorders, pre-leukemic conditions, leukemic conditions, myelodysplastic syndrome, aplastic anemia and bone marrow insufficiency, the pharmaceutical composition comprising, as active ingredients, thrombopoietin and a peptide derived from an N terminus portion of oS1 casein and a pharmaceutically acceptable carrier.

254. The pharmaceutical composition of claim 253, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

255. The pharmaceutical composition of claim 253, wherein said peptide is a synthetic peptide.

256. The pharmaceutical composition of claim 253, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

257. A purified peptide having an amino acid sequence selected from the group consisting of SEQ ID NOs: 1-25.

258. A pharmaceutical composition comprising a purified peptide having an amino acid sequence selected from the group consisting of SEQ ID NOs: 1-25 and a pharmaceutically acceptable carrier.

259. A pharmaceutical composition comprising thrombopoietin and a purified peptide having an amino acid sequence selected from the group consisting of SEQ ID NOs: 1-25 and a pharmaceutically acceptable carrier.

260. A method of enhancing colonization of donated blood stem cells in a myeloablated recipient, the method comprising treating a donor of said donated blood stem cells with a peptide derived from an N terminus portion of oS1 casein prior to donation and implanting the donated blood stem cells in the recipient.

261. The method of claim 260, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

262. The method of claim 260, wherein said peptide is a synthetic peptide.

263. The method of claim 260, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

264. A method of enhancing colonization of donated blood stem cells in a myeloablated recipient, the method comprising treating said donated blood stem cells with a peptide derived from an N terminus portion

of oS1 casein prior to implanting the donated blood stem cells in the recipient.

265. The method of claim 264, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

266. The method of claim 264, wherein said peptide is a synthetic peptide.

267. The method of claim 264, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

268. A method of enhancing colonization of blood stem cells in a myeloablated recipient, the method comprising treating said blood stem cells with a peptide derived from an N terminus portion of oS1 casein prior to implanting the blood stem cells in the recipient.

269. The method of claim 268, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

270. The method of claim 268, wherein said peptide is a synthetic peptide.

271. The method of claim 268, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

272. A method of enhancing colonization of donated blood stem cells in a myeloablated recipient, the method comprising treating a donor of said donated blood stem cells with a peptide derived from an N terminus

portion of oS1 casein and thrombopoietin prior to donation and implanting the donated blood stem cells in the recipient.

273. The method of claim 272, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

274. The method of claim 272, wherein said peptide is a synthetic peptide.

275. The method of claim 272, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

276. A method of enhancing colonization of donated blood stem cells in a myeloablated recipient, the method comprising treating said donated blood stem cells with a peptide derived from an N terminus portion of oS1 casein and thrombopoietin prior to implanting the donated blood stem cells in the recipient.

277. The method of claim 276, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

278. The method of claim 276, wherein said peptide is a synthetic peptide.

279. The method of claim 276, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.

280. A method of enhancing colonization of blood stem cells in a myeloablated recipient, the method comprising treating said blood stem cells

with a peptide derived from an N terminus portion of oS1 casein and thrombopoietin prior to implanting the blood stem cells in the recipient.

281. The method of claim 280, wherein said peptide is a fragment derived by fragmentation of oS1 casein.

282. The method of claim 280, wherein said peptide is a synthetic peptide.

283. The method of claim 280, wherein said peptide has a sequence as set forth in one of SEQ ID NOs: 1-25.